HEAT AWARENESS DAY
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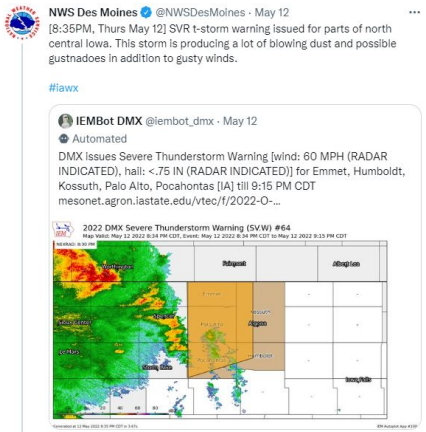
WHAT'S INSIDE?

May 12 Haboob/Derecho

Ashley Bury and Kristy Carter, Meteorologists

On the afternoon and evening of May 12, a line of strong thunderstorms developed over southern Nebraska pushing northeast into northeast Nebraska and southeast South Dakota before continuing further north in South Dakota and Minnesota. A second line of thunderstorms moved through eastern Nebraska into northwest Iowa before lifting further north and east as well. These thunderstorms, ultimately classified as a Derecho, brought widespread significant wind damage and had wind speeds between 50 and 90 mph, one gust as high as 107 mph in Tripp, SD. In addition to the damaging wind gusts, these storms brought a significant amount of dust and other debris leading to near zero visibility from the blowing dust, known as a haboob. The second line of thunderstorms that moved through northwest Iowa was weaker than the initial line that heavily impacted Sioux Falls, SD and surrounding areas, but still brought 60-70 mph wind gusts and blowing dust leading NWS Des Moines to add "This storm is producing a lot of blowing dust and possible gustnadoes" to the severe thunderstorm warning in our northwest Iowa counties.



Tweet from NWS Des Moines on May 12, 2022 highlighting the blowing dust and possible gustnadoes in the severe thunderstorm warning.

What exactly is a Haboob?

The term haboob, meaning wind or blow from the Arabic word *haab*, is a massive and strong fast-moving dust storm that occurs when the outflow wind produced by thunderstorms...

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...kicks dust up high into the atmosphere. This takes form as a many thousands of feet tall to many miles long advancing wall of dust and debris, which can arrive suddenly in an area and last typically between 10 to 30 minutes, though in extreme cases, can last for a couple hours! If this type of dust storm is expected to impact an area, a Dust Storm Warning, Severe Thunderstorm Warning, and/or Significant Weather Advisory are typically issued.

Although more common to the Middle East, Sahara, and other dry land areas like the southwest U.S., haboobs come with safety risks including reduced visibility, choking or breathing issues if caught outdoors, and very hazardous traveling conditions that may cause collisions between vehicles or pile ups. Safety best practices would include moving away from the dust storm if at all possible; don't drive straight into it! If you are driving and the storm cannot be avoided, it is best to pull over and park, turn off the vehicle (lights too!) in a safe location on the side of the road and wait for the storm to pass.

View of the haboob from the Sioux Falls, SD Airport. Photo from NWS Sioux Falls, SD. More pictures available on the Event Summary page from NWS Sioux Falls for this event.

What is a gustnado and how does it differ from a tornado?

In addition to the haboob, a few gustnadoes were reported in parts of northwest Iowa with this event. By definition, a gustnado is a small, typically weak, whirlwind that forms as an eddy in the outflow of a thunderstorm. Gustnadoes can cause minor damage (e.g. break tree limbs or overturn trash cans or lawn furniture) and thus should be avoided, but gustnadoes are not classified as tornadoes. Why? Gustnadoes are caused by wind gusts from thunderstorms and are not connected to any cloud-base rotation, whereas a tornado is fully connected to the storm and is produced due to deep rotation through the core of a storm. Gustnadoes do typically have a spinning dust cloud at ground level, however, which can cause them to sometimes be incorrectly reported as tornadoes. If you're a storm spotter and are unsure whether it is a gustnado or a tornado, remember to consider these features: 1) is the cloud feature attached to the updraft? 2) Is the feature rotating along a vertical axis? 3) Is there debris underneath the feature? To be a tornado, the feature has to be "a violently rotating column of air attached to a nearby shower or thunderstorm AND in contact with the ground."

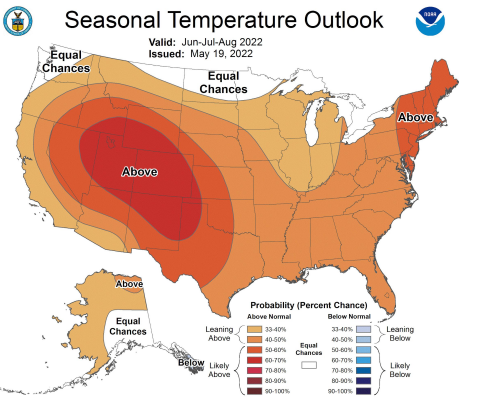
Heat Awareness & Summer Safety

Kristy Carter, Meteorologist

We've had a few warm days already in May but with more summer heat just around the corner, we wanted to provide some safety tips and resources so you and your family and friends can stay safe this summer. Follow our social media channels during Heat Awareness Day, June 2, 2022, for tips to beat the heat! Not on social media? Follow the link above!

Why do we have a heat awareness day? Heat is the leading cause of weather-related fatalities in the U.S. causing hundreds of deaths and heat-related illnesses each year. Curious what our heat outlook is for this summer? The Climate Prediction Center has Iowa leaning above average for temperatures and below normal for precipitation in their Seasonal Temperature and Precipitation outlooks.

Summer safety reminders (above). Climate Prediction Center Seasonal Temperature Outlook for June, July, August 2022 (right).



STAFF SPOTLIGHT

Jim Lee

Climate, Weather History, Severe Thunderstorms, Leadership

Background

Meteorologist

19 Years of service

Jim grew up in Iowa City, earned a BS and MS in Meteorology from the University of Oklahoma, then began his NWS career at the forecast office in Key West, FL in 2002. After a little over five years in the tropics, Jim returned to his home state and has worked in the Des Moines office since March of 2008. During his years here Jim has worked many memorable events including the 2008 Parkersburg tornado, historic flooding of 2010, drought and heat of 2012, and the 2020 Iowa derecho.

Jim's professional interests include climate, weather history, and severe thunderstorms. Jim is also the regional representative for the National Weather Service Employees Organization, and organizes and facilitates leadership and community volunteer activities. In his spare time Jim enjoys hiking and spending time outdoors, movies and sports, and traveling with his family.

On the Cover:
Heat Awareness Day for Iowa is June 2, 2022 where we'll discuss all things #heatsafety on Twitter and Facebook. Join us on Thursday (6/2) or check out weather.gov/safety/heat.

Contact the Editors:
brooke.hagenhoff@noaa.gov
kristy.carter@noaa.gov
ashley.bury@noaa.gov